AWC Ensemble Product Needs
28 May 2004

	FUNCTIONALITY	CENTRALLY MADE PRODUCTS	LOCALLY GENERATED PRODUCTS
1	Mean of selected members	Trop Height Trop Temp Freezing level Cloud amount Visibility Ceiling Cloud Top Conv. Cld. Amount Conv. Cld. Speed Max Wind Level Max Wind Speed 10 m Wind	
2	Spread of selected members	Trop Height Trop Temp Freezing level Cloud amount Visibility Ceiling Cloud Top Conv. Cld. Amount Conv. Cld. Speed Max Wind Level Max Wind Speed 10 m Wind	
3	Median of selected members		
4	Lowest value in selected members	Cloud amount	
5	Highest value in selected members	Cloud amount	
6	Range between lowest and highest values in selected members		
7	Univariate exceedance probabilities for a selectable threshold value	Jet Stream >80kt for 18K, 34K, and 45Kft. Jet Stream> 100 kt for 18K, 34K, and 45Kt Prob of Icing at 00,03,06,09,12,15,18, 24Kft. Prob of Icing within 00-24Kft. Prob of clear, scat, broken, overcast clds. Prob of VFR, MVFR, IFR, LIFR. Prob of light turb every 3Kft Sfc to 45Kft. Prob of mod turb every 3Kft Sfc to 45Kft. Prob of sev turb every 3 Kft Sfc to 45Kft. Prob of mod turb between Sfc and 18Kft. Prob of mod turb between 18K and 45Kft. Prob of vert wind shear Sfc-2Kft >10kt, >20kt. Prob of 10 m wind > 10, 20, or 30kt.	

8	Multivariate (up to 5) exceedance probabilities for a selectable threshold value		
9	Forecast value associated with selected univariate percentile value		
10	Tracking center of maxima or minima in a gridded field (eg - low pressure centers)		
11	Objective grouping of members		
12	Plot Frequency / Fitted probability density function at selected location and time (lower priority)		
13	Plot Frequency / Fitted probability density function plot as a function of forecast lead time, at selected location (lower priority)		

HPC Ensemble Product Needs
28 May 2004

All products listed should be NA domain for both global and regional ensemble EXCEPT...

MEAN and SPREAD of QPF, 500mb height, 500mb avor, 850 avor, pmsl which should be on a scale large enough to cover BOTH the western hemisphere north of 0 lat - and south of 0 lat (for south america).

All products in 6h increments to 84h and then 12h to 192h.

	FUNCTIONALITY	CENTRALLY MADE PRODUCTS	LOCALLY GENERATED PRODUCTS
1	Mean of selected members	Hght: 250, 500, 700, 850 Tmpk: 500, 700, 750, 800, 850, 900, BL Wind: 250, 500, 700, 850, BL RH: 500-900mb mean layer VV: 500-700mb mean layer AVOR: 500, 850 pmsl QPF PW CAPE CIN LI	
2	Spread of selected members	500 hght pmsl QPF BL temp	
3	Median of selected members		
4	Lowest value in selected members	Snow accum ZR accum QPF MOS Max T MOS Min T MOS PoP 12h	
5	Highest value in selected members	As in 4	
6	Range between lowest and highest values in selected members	As in 4	
7	Univariate exceedance probabilities for a selectable threshold value	Snow: 1", 4", 8" 12" ZR: .01", .10" .25" .50" QPF .50" 1", 2" 3" 5" Most probable ptype	
8	Multivariate (up to 5) exceedance probabilities for a selectable threshold value	BL < 0 and QPF > 0	
9	Forecast value associated with	67% for QPF, S, ZR	

	selected univariate percentile value		
10	Tracking center of maxima or minima in a gridded field (eg – low **pressure centers)**	Pmsl low	
11	Objective grouping of members	500mb heights pmsl	
12	Plot Frequency / Fitted probability density function at selected location and time (lower priority)		
13	Plot Frequency / Fitted probability density function plot as a function of forecast lead time, at selected location (lower priority)		

OPC Ensemble Product Needs
28 May 2004

6 hourly
domain - Northern Hemisphere
Global (for High Seas) and SREF (Offshore waters)
Highest available resolution

	FUNCTIONALITY	CENTRALLY MADE PRODUCTS	LOCALLY GENERATED PRODUCTS
1	Mean of selected members	MSLP U and V at 10 m, 925 mb, 850 mb, 700 mb, 500 mb, 300 mb, 250 mb, 200 mb Z at 850 mb, 700 mb, 500 mb T at 925 mb, 850 mb, 700 mb, 500 mb, 300 mb, 250 mb, and 200 mb	
2	Spread of selected members	MSLP Wind speed at 10 m, 925 mb, 850 mb, 500 mb, and 200 mb Z at 850 mb, 700 mb, 500 mb	
3	Median of selected members	MSLP Z at 500 mb Wind speed at 10m	
4	Lowest value in selected members	MSLP Z at 500 mb Wind speed at 10 m	
5	Highest value in selected members	MSLP, 500 hPa, Wind speed at 10m sig. wave height, visibility	
6	Range between lowest and highest values in selected members	MSLP, 500 hPa, Wind speed at 10m, sig. wave height	
7	Univariate exceedance probabilities for a selectable threshold value	Wind speed at 10 m; thresholds 20, 34, 50, and 64 kt, Sig. wave height at various values	
8	Multivariate (up to 5) exceedance probabilities for a selectable threshold value	10m winds, sig. wave height, visibility, TSTORM potential	
9	Forecast value associated with selected univariate percentile value	Wind speed at 10 m; approx. 25th, 50th, 75th, and 90th percentiles	
10	Tracking center of maxima or minima in a gridded field (eg - low pressure centers)	Minima and maxima in MSLP Maxima in 850 mb relative vorticity, wind speed at 10m, sig. wave height	
11	Objective grouping of members	By: lows/troughs/minima and highs/ridges/maxima in: MSLP 850 mb relative vorticity Z at 500 mb	
12	Plot Frequency / Fitted probability	10m winds, sig. wave heights, visibility	

	density function at selected location and time (lower priority)		
13	Plot Frequency / Fitted probability density function plot as a function of forecast lead time, at selected location (lower priority)	10m winds, sig. wave heights, visibility	

SPC Ensemble Product Needs
28 May 2004

	FUNCTIONALITY	CENTRALLY MADE PRODUCTS	LOCALLY GENERATED PRODUCTS
	GENERAL/MULTIPLE PROGRAMS Mean of selected members Spread of selected members Median of selected members Lowest value in selected members Highest value in selected members	SYNOPTIC FIELDS: 1000, 925, 850, 700, 500, 300 MB hght statistics tmpc statistics dwpc statistics wind statistics (vector and magnitude) avor statistics relh statistics omeg statistics	
		PMSL pmsl statistics pmsl <= 1000 mb pmsl <= 980 mb pmsl <= 960 mb pmsl <= 1000 mb	
		PRECIP WATER pwtr statistics pwtr >= 25 mm pwtr >= 38 mm pwtr >= 50 mm	
		2 METER TEMPS (degF) tmpf statistics tmpf >= 60 degF tmpf >= 70 degF tmpf >= 80 degF tmpf >= 90 degF	
		2 METER DEW POINT dwpf statistics dwpf >= 45 degF dwpf >= 50 degF dwpf >= 55 degF dwpf >= 60 degF dwpf >= 65 degF dwpf >= 70 degF	
		850 TEMP tmpc statistics tmpc <= 2 degC tmpc <= 0 degC tmpc <= -2 degC	
		850 MB DEW POINT dwpc statistics dwpc >= 12 degC dwpc >= 16 degC	
		METER WINDS wind (component and total magnitude) statistics	

		mag(wind) >= 10 mph mag(wind) >= 20 mph mag(wind) >= 30 mph mag(wind) >= 40 mph	
		850 MB WINDS wind (component and total magnitude) statistics mag(wind) >= 20 kts mag(wind) >= 30 kts mag(wind) >= 40 kts mag(wind) >= 50 kts	
		700 MB WINDS wind (component and total magnitude) statistics mag(wind) >= 20 kts mag(wind) >= 30 kts mag(wind) >= 40 kts mag(wind) >= 50 kts mag(wind) >= 60 kts	
		500 MB WINDS wind (component and total magnitude) statistics mag(wind) >= 30 kts mag(wind) >= 40 kts mag(wind) >= 50 kts mag(wind) >= 60 kts mag(wind) >= 75 kts mag(wind) >= 90 kts	
		300 MB WINDS wind (component and total magnitude) statistics mag(wind) >= 50 kts mag(wind) >= 75 kts mag(wind) >= 100 kts mag(wind) >= 125 kts mag(wind) >= 150 kts	
		700 MB OMEGA omeg statistics omeg <= -1 (x10-3)pa/s omeg <= -3 (x10-3)pa/s omeg <= -5 (x10-3)pa/s omeg <= -7 (x10-3)pa/s omeg <= -9 (x10-3)pa/s	
		3 HOUR TOTAL PRECIPITATION (stratiform and convective) p03m statistics p03m >= .01" p03m >= .05" p03m >= .10" p03m >= .25" p03m >= .50" p03m >= 1.0" c03m statistics c03m >= .01" c03m >= .05"	

		c03m >= .10" c03m >= .25" c03m >= .50" c03m >= 1.0"	
		6 HOUR TOTAL PRECIPITATION (stratiform and convective) p06m statistics p06m >= .01" p06m >= .10" p06m >= .25" p06m >= .50" p06m >= 1.0" p06m >= 1.5" c06m statistics c06m >= .01" c06m >= .10" c06m >= .25" c06m >= .50" c06m >= 1.0" c06m >= 1.5"	
		12 HOUR TOTAL PRECIPITATION (stratiform and convective) p12m statistics p12m >= .01" p12m >= .10" p12m >= .25" p12m >= .50" p12m >= 1.0" p12m >= 2.0" p12m >= 3.0" c12m statistics c12m >= .01" c12m >= .10" c12m >= .25" c12m >= .50" c12m >= 1.0" c12m >= 2.0" c12m >= 3.0"	
		24 HOUR TOTAL PRECIPITATION (stratiform and convective) p24m statistics p24m >= .01" p24m >= .10" p24m >= .25" p24m >= .50" p24m >= 1.0" p24m >= 2.0" p24m >= 3.0" c24m statistics c24m >= .01" c24m >= .10" c24m >= .25" c24m >= .50"	

		c24m >= 1.0" c24m >= 2.0" c24m >= 3.0"	
		48 HOUR TOTAL PRECIPITATION (stratiform and convective) p48m statistics p48m >= .10" p48m >= .25" p48m >= .50" p48m >= 1.0" p48m >= 2.0" p48m >= 3.0" p48m >= 5.0" c44m statistics c48m >= .10" c48m >= .25" c48m >= .50" c48m >= 1.0" c48m >= 2.0" p48m >= 3.0" c48m >= 5.0"	
	THUNDER/SEVERE PROGRAM Mean of selected members Spread of selected members Median of selected members Lowest value in selected members Highest value in selected members	LIFTED INDEX lift statistics lift <= 0 degC lift <= -1 degC lift <= -2 degC lift <= -4 degC lift <= -6 degC lift <= -8 degC	
		K index kind statistics kind >= 25 kind >= 30 kind >= 35	
		SURFACE CAPE cape statistics cape >= 50 j/kg cape >= 150 j/kg cape >= 250 j/kg cape >= 500 j/kg cape >= 1000 j/kg cape >= 1500 j/kg cape >= 2000 j/kg cape >= 2500 j/kg cape >= 3000 j/kg cape >= 4000 j/kg	
		SURFACE CIN cin statistcs cin >= -25 j/kg cin >= -50 j/kg cin >= -75 j/kg cin >= -100 j/kg	
		SURFACE LCL lcl statistcs lcl <= 750 meters	

		lcl <= 1000 meters lcl <= 1250 meters lcl <= 1500 meters	
		SURFACE LFC lcl statistcs	
		SURFACE LFC lfc statistcs	
		MOST UNSTABLE CAPE (prefer to 300 or even 500 mb AGL) mucape statistics mucape >= 50 j/kg mucape >= 150 j/kg mucape >= 250 j/kg mucape >= 500 j/kg mucape >= 1000 j/kg mucape >= 1500 j/kg mucape >= 2000 j/kg mucape >= 2500 j/kg mucape >= 3000 j/kg mucape >= 4000 j/kg	
		MOST UNSTABLE CIN mucin statistcs mucin >= -25 j/kg mucin >= -50 j/kg mucin >= -75 j/kg mucin >= -100 j/kg	
		MOST UNSTABLE LCL mulcl statistcs mulcl <= 750 meters mulcl <= 1000 meters mulcl <= 1250 meters mulcl <= 1500 meters	
		MOST UNSTABLE LFC mulfc statistcs	
		MIXED LAYER CAPE mlcape statistics mlcape >= 500 j/kg mlcape >= 1000 j/kg mlcape >= 2000 j/kg mlcape >= 3000 j/kg	
		MIXED LAYER CIN mlcin statistics mlcin >= -25 j/kg mlcin >= -50 j/kg mlcin >= -75 j/kg mlcin >= -100 j/kg	
		MIXED LAYER LCL mllcl statistics mllcl <= 750 meters mllcl <= 1000 meters mllcl <= 1250 meters mllcl <= 1500 meters	
		MIXED LAYER LFC mllfc statistcs	

		700-500 mb LAPSE RATE 75lr statistics 75lr >= 7 degC 75lr >= 7.5 degC 75lr >= 8 degC 75lr >= 8.5 degC 75lr >= 9 degC	
		6 KM VERTICAL SHEAR 6kvs statistcs 6kvs >= 20 kts 6kvs >= 30 kts 6kvs >= 40 kts 6kvs >= 50 kts	
		EFFECTIVE SHEAR...LPL to .5 EL eshr statistics eshr >= 20 kts eshr >= 30 kts eshr >= 40 kts eshr >= 50 kts eshr u-component statistics eshr v-component statistics	
		BRN SHEAR brnshr statistics 20 <= brnshr <= 140	
		0 to 1 KM STORM RELATIVE HELICITY 1khl statistics 1khl >= 50 j/kg 1khl >= 100 j/kg 1khl >= 150 j/kg 1khl >= 200 j/kg	
		0 to 3 KM STORM RELATIVE HELICITY 3khl statistics 3khl >= 100 j/kg 3khl >= 150 j/kg 3khl >= 200 j/kg 3khl >= 250 j/kg 3khl >= 300 j/kg 3khl >= 400 j/kg 3khl >= 500 j/kg	
		CRAVEN BROOKS SIG SVR (CAPE X SHEAR) cbss statistics cbss >= 10000 m^3/s^3 cbss >= 20000 m^3/s^3 cbss >= 30000 m^3/s^3 cbss >= 50000 m^3/s^3 cbss >= 70000 m^3/s^3	
		SPC SIGNIFICANT TORNADO PARAMETER sigt statistics sigt >= 0.5 sigt >= 1	

		sigt >= 2 sigt >= 3 sigt >= 5 sigt >= 7 sigt >= 9	
		SPC SUPERCELL COMPOSITE PARAMETER sccp statistics sccp >= 1 sccp >= 2 sccp >= 3 sccp >= 5 sccp >= 7 sccp >= 9	
		DOWNDRAFT CAPE dcape statistics dcape >= 500 j/kg dcape >= 1000 j/kg dcape >= 1500 j/kg dcape >= 2000 j/kg dcape >= 2500 j/kg	
		SPC DERECHO PARAMETER decho statistics decho >= 1 decho >= 2 decho >= 3 decho >= 5 decho >= 7	
		SPC CLOUD PHYSICS THUNDER PARAMETER cptp statistics cptp >= 1	
	FIRE WEATHER PROGRAM Mean of selected members Spread of selected members Median of selected members Lowest value in selected members Highest value in selected members	2 METER RELH relh statistics relh <= 40 pct relh <= 35 pct relh <= 30 pct relh <= 25 pct relh <= 20 pct relh <= 15 pct relh <= 10 pct 15 <= relh <= 30 pct 30 <= relh <= 45 pct	
		FOSBERG FIRE WX fosb statistics fosb >= 50 fosb >= 60 fosb >= 70 fosb >= 75 fosb >= 80 fosb >= 85 fosb >= 90	
		SPC LOWER ATMOSPHERIC FIRE WX	

		INDEX lasi statistics lasi >= 5 lasi >= 7 lasi >= 9	
		HAINES FIRE WX INDEX hain statistics hain >= 5 hain >= 6	
		SPC DRY THUNDERSTORM PARAMETER dryt statistics dryt >= 1 dryt >= 2	
	WINTER WEATHER PROGRAM Mean of selected members Spread of selected members Median of selected members Lowest value in selected members Highest value in selected members	1000-500 MB THICKNESS thck statistics thck <= 546 dm thck <= 540 dm thck <= 534 dm thck <= 528 dm thck <= 522 dm	
		PRECIPITATION TYPE ptypeb statistics (most likely, etc.) ptype = 1 (rain) ptype = 2 (snow) ptype = 3 (mix) ptype = 4 (ice)	
		MOIST POTENTIAL VORTICITY mistab statistics mistab probabilities	
		FRONTOGENESIS IN THE SAME LAYER AS MOIST PV frontogenesis statistics frontogenesis function >= 1	
		CLOUD TOP TEMPERATURE tsat statistics tsat >= -8 degC -8 <= tsat <= -12 degC tsat <= -12 degC	
		DENDRITIC GROWTH LAYER DEPTH dend statistics dend >= 50 mb dend >= 100 mb dend >= 150 mb	

TPC Ensemble Product Needs
28 May 2004

All of the following apply primarily to the global ensemble.
However, we would be interested in seeing the same products
from the regional ensemble.

Lead time: All available taus out to at least 132 hours from
global output

Domain: global

	FUNCTIONALITY	CENTRALLY MADE PRODUCTS	LOCALLY GENERATED PRODUCTS
1	Mean of selected members	MSLP U and V at 10 m, 925 mb, 850 mb, 700 mb, 500 mb, 300 mb, 250 mb, 200 mb Z at 850 mb, 700 mb, 500 mb T at 925 mb, 850 mb, 700 mb, 500 mb, 300 mb, 250 mb, and 200 mb Significant wave height (if available)	
2	Spread of selected members	MSLP Wind speed at 10 m, 925 mb, 850 mb, 500 mb, and 200 mb Z at 850 mb, 700 mb, 500 mb	
3	Median of selected members	MSLP Z at 500 mb Wind speed at 10 m	
4	Lowest value in selected members	MSLP Z at 500 mb Wind speed at 10 m Visibility	
5	Highest value in selected members	MSLP Z at 500 mb Wind speed at 10 m Significant wave height	
6	Range between lowest and highest values in selected members	MSLP Wind speed at 10 m Significant wave height	
7	Univariate exceedance probabilities for a selectable threshold value	Wind speed at 10 m; thresholds 20, 34, 50, and 64 kt	
8	Multivariate (up to 5) exceedance probabilities for a		

	selectable threshold value		
9	Forecast value associated with selected univariate percentile value	Wind speed at 10 m; approx. 25th, 50th, 75th, and 90th percentiles	
10	Tracking center of maxima or minima in a gridded field (eg - low pressure centers)	Minima and maxima in MSLP Maxima in 850 mb relative vorticity	
11	Objective grouping of members	By: lows/troughs/minima and highs/ridges/maxima in: MSLP 850 mb relative vorticity Z at 500 mb	
12	Plot Frequency / Fitted probability density function at selected location and time (lower priority)		
13	Plot Frequency / Fitted probability density function plot as a function of forecast lead time, at selected location (lower priority)		